



# **Egyptian Herbal Monograph**

**Volume 3**

**Medicinal Plants used in Egypt**

**Egyptian Drug Authority (EDA)**

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# Egyptian Herbal Monograph

## Medicinal Plants Used in Egypt

*Olea europaea* L.

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### 1. Names & Synonyms (1)

*Olea europaea* L.

Family: Oleaceae.

Syns: *Olea pallida* Salisb., *Olea sativa* Hoffmanns. & Link .

English: Olive (2).

Arabic: Zaytun زيتون (3).

### 2. Parts used for medicinal purpose

Fresh or dried leaves (4) and fruits (5-7).

### 3. Major chemical constituents

**Olive leaves:**

- **Secoiridoids:** Oleuropein (8), methyloleuropein, oleoside (9), verbascoside and ligstroside (10).
- **Flavonoids:** Apigenin, kaempferol, luteolin, diosmetin and chrysoeriol (9).
- **Triterpenoids:** Oleanolic, ursolic and maslinic acids (11), uvaol and erythrodiol (12).
- **Phenolic compounds:** Tyrosol, hydroxytyrosol (10) and caffeic acid (9).

**Olive oil:**

- **Triglycerides:** Unsaturated fatty acids mainly as oleic, linoleic and palmitoleic acids and saturated fatty acids as palmitic and stearic acids (13).
- **Phenolic compounds:** Oleuropein, hydroxytyrosol and  $\alpha$ -tocopherol (13).
- **Volatiles:** Hexanal, *trans*-2-hexenal, 1-hexanol and 3-methylbutanol (14).
- **Hydrocarbons:** Squalene and  $\beta$ -carotene (14).

### 4. Medicinal uses (Indications)

- A. Diuretic and promote the renal elimination of water in mild cases of water retention after serious conditions have been excluded by a medical doctor (4, 15).
- B. Adjunct therapy in hypertension and hyperlipidemia (16).
- C. Purgative / laxative (6, 17).
- D. For chronic gastritis and protect stomach lining (6, 7).
- E. **Externally/Topically:** Emollient: soften crusty lesions, psoriasis, eczema, for skin and mucosal infections, sooth mild and sun burns and protect the skin from sun damage (17, 18).



## 5. Herbal preparations correlated to medicinal use

1. Comminuted fresh or dried leaves (decoction and infusion) (4, 15).
  2. Powdered dried leaves (4, 15)
  3. Ethanolic leaves extract (dry and fluid extracts, tincture) (15).
- Note:** Preparations are standardized to contain 17-20 % oleuropein (19).
4. Olive oil from the fruits (5-7).

Herbal preparations (2-4) are in a pharmaceutical dosage form. The pharmaceutical form should be described by the pharmacopoeia full standard term.

## 6. Posology and method of administration correlated to medicinal use

### Adults and elderly

#### Preparation 1 (4, 15)

##### Indications A and B

- 10 g of fresh leaves or 5 g of dried leaves in 150 ml of water as a decoction, allow to simmer to reach 100 ml, 1-2 times daily.
- Single dose: 6–10 g, 1-3 times daily; daily dose: 6–30g as infusion.

#### Preparation 2 (4, 20)

##### Indications A and B

- Single dose: 275 mg, 3-5 times daily or 210 – 400 mg, 3 times daily.
- Daily dose: 630–1375 mg.

#### Preparation 3

##### Indications A and B

The equivalent of 0.6 - 3.5 g of dried leaves, daily (15).

##### Indication B

5 ml, 3 times daily with water or juice, if necessary (18, 21).  
400 mg, 4 times daily (21, 22).

#### Preparation 4

##### Indication B

1½ - 3 tablespoonful (≈ 25 - 50 ml), daily (21, 23).

##### Indication C

2 - 4 tablespoonful (30 - 60 ml), daily (6).

##### Indication D

one tablespoonful (15 ml) each morning, slowly sipped (7).

##### Indication E

The appropriate dose depends on several factors such as the user's condition.



**Duration of use:**

- For occasional use only (15); 2-4 weeks (4) (**Indication A**).
- If the symptoms persist longer than one week during the use of the medicinal product, a doctor or a pharmacist should be consulted (4).

**Method of administration**

- Oral use, to be taken with food (4, 15), water or juice (18, 21).
- Topical use (17, 18).

**7. Contraindications**

- Hypersensitivity to active substances and to other plants of the same family.
- Decoction and infusion (preparation 1) are contraindicated in conditions where a reduced fluid intake is recommended (e.g. severe cardiac or renal disease) (4).

**8. Special warnings and precautions for use (4)**

- If the symptoms worsen during the use of the medicinal product, a doctor or a pharmacist should be consulted.
- Patients with cardiac disease or renal impairment should seek medical advice before taking olive preparations.
- The use in children and adolescents under 18 years of age has not been established.

**9. Interactions with other medicinal products and other forms of interaction**

Due to the hypotensive and antiplatelet aggregating properties of olive leaf extract, concomitant use with blood-pressure lowering medications and blood thinners may have a potentiating effect (24).

**10. Fertility, pregnancy and lactation (4)**

- Safety during pregnancy and lactation has not been established. In the absence of sufficient data, the use during pregnancy and lactation is not recommended.
- No fertility data available.

**11. Effects on ability to drive and use machines**

No studies on the effect on the ability to drive and use machines have been performed.



## 12. Undesirable effects

- None known (4).
- If adverse reactions occur, a doctor or pharmacist should be consulted.

## 13. Overdose

No case of overdose has been reported (4).

## 14. Relevant biological activities

Not required as per Egyptian guidelines for registration of herbal medicines.

## 15. Additional Information

Olive leaf and oil have antioxidants effect. This effect is believed to be responsible for the action of olive to reduce risk of heart disease by protecting cells from oxidative damage. (5,15,17,21)

## 16. Date of compilation/last revision

01/06/2023.

## References

|    |   |
|----|---|
| 1  | <a href="http://www.powo.science.kew.org">www.powo.science.kew.org</a>  |
| 2  | <a href="https://www.gbif.org/species/5415040">https://www.gbif.org/species/5415040</a>   |
| 3  | Provençal, P. (2010). The Arabic Plant Names of Peter Forsskål's Flora Aegyptiaco-Arabica. The Royal Danish Academy of Sciences and Letters.  |
| 4  | European Union Herbal Monograph on <i>Olea europaea</i> L., Folium (2017). EMA/HMPC/359238/2016. Committee on Herbal Medicinal Products (HMPC).   |
| 5  | Natural Health Product. Multiple Ingredient fixed oil products (2022). Health Canada, <a href="https://webprod.hc-sc.gc.ca/nhp-id-bdipsn/atReq.do?atid=multiple.oil&amp;lang=eng">https://webprod.hc-sc.gc.ca/nhp-id-bdipsn/atReq.do?atid=multiple.oil&amp;lang=eng</a>   |
| 6  | Duke, J. A. (2002). Handbook of Medicinal Herbs. CRC Press, 2 <sup>nd</sup> edition. ISBN 9780849312847.  |
| 7  | Kraft, K. and Hobbs, C. (2004). Pocket Guide to Herbal Medicine. George Thieme Verlag, ISBN: 1-58890-063-0.   |
| 8  | Bilel, H., Yahia, M. and Moustafa, S. M. N. (2023). An overview of chemical composition and fungicidal activity of Olive ( <i>Olea europaea</i> L.) leaf extract. <i>Egyptian Journal of Chemistry</i> , <b>66</b> (1), 303-311.  |
| 9  | Acar-Tek, N. and Ağagündüz, D. (2020). Olive leaf ( <i>Olea europaea</i> L. folium): Potential effects on glycemia and lipidemia. <i>Ann. Nutr. Metab.</i> , <b>76</b> (1), 10-15. doi: 10.1159/000505508.  |
| 10 | Ben-Amor, I., Musarra-Pizzo, M., Smeriglio, A., D'Arrigo, M., Pennisi, R., Attia, H., Gargouri, B., Trombetta, D., Mandalari, G., and Sciortino, M.T. (2021). Phytochemical characterization of <i>Olea europaea</i> leaf extracts and assessment of their antimicrobial and anti-HSV-1 activity. <i>Viruses</i> , <b>13</b> (6), 1085. doi: 10.3390/v13061085. |
| 11 | Kabbash, E. M., Abdel-Shakour, Z. T., El-Ahmady, S. H., Wink, M. and Ayoub, I. M. (2023). Comparative metabolic profiling of olive leaf extracts from twelve different cultivars collected in both fruiting and flowering seasons. <i>Sci. Rep.</i> , <b>13</b> (1), 612. doi: 10.1038/s41598-022-27119-5.  |
| 12 | Suárez Montenegro, Z. J., Álvarez-Rivera, G., Mendiola, J. A., Ibáñez, E. and Cifuentes, A. (2021). Extraction and mass spectrometric characterization of terpenes recovered from olive leaves using a new adsorbent-assisted supercritical CO <sub>2</sub> process. <i>Foods</i> , <b>10</b> (6), 1301. doi: 10.3390/foods10061301.                            |
| 13 | Jimenez-Lopez, C., Carpena, M., Lourenço-Lopes, C., Gallardo-Gomez, M., Lorenzo, J. M., Barba, F. J., Prieto, M. A. and Simal-Gandara, J. (2020). Bioactive compounds and quality of extra virgin olive oil. <i>Foods</i> , <b>9</b> (8), 1014. doi: 10.3390/foods9081014.  |
| 14 | Kiritsakis, A. K. (1998). Flavor components of olive oil—A Review. <i>JAOCs</i> , <b>75</b> (6), 673-681.   |
| 15 | Natural Health Product. Olive Leaf - <i>Olea europaea</i> (2018). Health Canada, <a href="https://webprod.hc-sc.gc.ca/nhp-id-bdipsn/atReq.do?atid=feuille.olea.europaea.leaf&amp;lang=eng">https://webprod.hc-sc.gc.ca/nhp-id-bdipsn/atReq.do?atid=feuille.olea.europaea.leaf&amp;lang=eng</a>  |
| 16 | Martindale (1996). The Extra Pharmacopoeia. Reynolds, J. E. F., Ed., 31 <sup>st</sup> edition, Royal Pharmaceutical Society, London.  |
| 17 | Fischer, C. (2018). Materia Medica of Western Herbs. Aeon Books Ltd, London. ISBN-13: 978-1-91159-751-3.  |
| 18 | Spiteri, M. (2011). Herbal monographs including herbal medicinal products and food supplements. Department of Pharmacy, University of Malta. Set and printed by Print Right Ltd, Qormi.   |



|    |   |
|----|---|
| 19 | Williams, L. and Wilkins (2004). Professional's Handbook of Complementary and Alternative Medicines, 3 <sup>rd</sup> edition. ISBN13: 978-1-58255-243-9. ISBN10: 1-58255-243-6. ISSN 1522-0877.   |
| 20 | Assessment Report on <i>Olea europaea</i> L.,Folium, (2017). EMA/HMPC/359236/2016. Committee on Herbal Medicinal Products (HMPC).   |
| 21 | Braun, L. and Cohen, M. (2010). Herbs and Natural Supplements - An Evidence-Based Guide. 3 <sup>rd</sup> edition, Churchill Livingstone. ISBN: 978 0 7295 3910 4.   |
| 22 | <a href="https://www.rxlist.com/olive/supplements.htm">https://www.rxlist.com/olive/supplements.htm</a>   |
| 23 | <a href="https://www.fda.gov/food/cfsan-constituent-updates/fda-completes-review-qualified-health-claim-petition-oleic-acid-and-risk-coronary-heart-disease#:~:text=The%20U.S.%20Food%20and%20Drug,risk%20of%20coronary%20heart%20disease">https://www.fda.gov/food/cfsan-constituent-updates/fda-completes-review-qualified-health-claim-petition-oleic-acid-and-risk-coronary-heart-disease#:~:text=The%20U.S.%20Food%20and%20Drug,risk%20of%20coronary%20heart%20disease</a> |
| 24 | Olive leaf Monograph (2009). <i>Alternative Medicine Review, A journal of clinical therapeutic</i> , <b>14</b> (1), 62-66.  |